



Rev. 04/01

Docket No. CipbBio-9

743  
9/18/02  
#5

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Scot R. Weinberger et al.  
Application No.: 10/066,359 Confirmation No.: 5296  
Filed: : January 31, 2002  
For: : IMPROVED METHODS FOR PROTEIN  
IDENTIFICATION, CHARACTERIZATION AND  
SEQUENCING BY TANDEM MASS SPECTROMETRY  
Group Art Unit : 1743

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for Patents  
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TRANSMITTAL LETTER FOR  
INFORMATION DISCLOSURE STATEMENT

Sir:

Transmitted herewith is an Information Disclosure  
Statement in the above-identified application. This  
Statement is submitted:

- ☐ [ ] within three months of the application filing date;
- ☒ [X] more than three months from the application filing date but before the mailing date of the first Office Action on the merits.

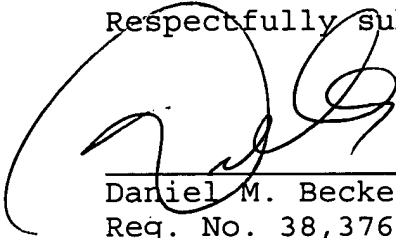
In accordance with 37 C.F.R. § 1.97, submission of  
this Statement requires no fee. However, if for any reason  
a fee is due, the Director is hereby authorized to charge  
payment of any fees required in connection with this  
Information Disclosure Statement to Deposit Account

No. 06-1075. A duplicate copy of this letter is transmitted herewith.

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Respectfully submitted,

9 JULY 2002

  
Daniel M. Becker  
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I hereby Certify that this Correspondence is being Deposited with the U.S. Postal Service as First Class Mail in an Envelope Addressed to: HON. COMMISSIONER FOR PATENTS, c/o P.O. Box 2327, Arlington, VA 22202 on:

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PATENTS  
CiphBio-9

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INFORMATION DISCLOSURE STATEMENT

Sir:

Pursuant to 37 C.F.R. §§ 1.56, 1.97 and 1.98,  
applicants hereby make the following documents of record in  
the above identified application: \*

U.S. Patents

6,027,942	02/2000	Hutchens et al.
6,020,208	02/2000	Hutchens et al.
6,017,693	01/2000	Yates III et al.
5,894,063	04/1999	Hutchens et al.
5,719,060	02/1998	Hutchens et al.
5,538,897	07/1996	Yates III et al.

Foreign Patents

WO 98/59362	12/1998	WIPO
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\* Applicants reserve the right to challenge the status of any  
of the cited documents as prior art.

## Other Documents

Bergman, "Ladder Sequencing," *EXS* 88: 133-144 (2000).

Biemann et al., "Amino Acid Sequencing of Proteins," *Acc. Chem. Res.* 27: 370-378 (1994).

Brockman et al., "Probe-Immobilized Affinity Chromatography/Mass Spectrometry," *Anal. Chem.* 67: 4581-4585 (1995).

Brockman et al., "Optimization of a Hydrophobic Solid-phase Extraction Interface for Matix-Assisted Laser Desorption/Ionization," *Journal of Mass Spectrometry* 33: 1141-1147 (1998).

Bundy et al., "Lectin-Based Affinity Capture for MALDI-MS Analysis of Bacteria," *Anal. Chem.* 71: 1460-1463 (1999).

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Eng et al., "An Approach to Correlate Tandem Mass Spectral Data of Peptides with Amino Acid Sequences in a Protein Database," *J. Am. Soc. Mass. Spectrom.* 5: 976-989 (1994).

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Henzel et al., "Identifying Proteins from Two-Dimensional Gels by Molecular Mass Searching of Peptide Fragments in Protein Sequence Databases," *Proc. Natl. Acad. Sci. USA* 90: 5011-5015 (1993).

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James et al., "Protein Identification by Mass Profile Fingerprinting," *Biochemical and Biophysical Research Communications* 195: 58-64 (1993).

Jurinke et al., "Recovery of Nucleic Acids from Immobilized Biotin-Streptavidin Complexes Using Ammonium Hydroxide and Applications in MALDI-TOF Mass Spectrometry," *Anal. Chem.* 69: 904-910 (1997).

Kaufman et al., "Sequencing of Peptides in a Time-of-flight Mass Spectrometer: Evaluation of Postsource Decay Following Matrix-assisted Laser Desorption Ionisation (MALDI)," *International Journal of Mass Spectrometry and Ion Processes* 131: 355-385 (1994).

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Keough et al., "A Method for High-Sensitivity Peptide Sequencing Using Postsource Decay Matrix-assisted Laser Desorption Ionization Mass Spectrometry," *Proclamation of the National Academy of Sciences of the USA* 96: 7131-7136 (1999).

Krutchinsky et al., "Orthogonal Injection of Matrix-assisted Laser Desorption/Ionization Ions into a Time-of-flight Spectrometer Through a Collisional Damping Interface," *Rapid Communications in Mass Spectrometry* 12: 508-518 (1998).

Liu et al., "Use of a Nitrocellulose Film Substrate in Matrix-Assisted Laser Desorption/Ionization Mass Spectrometry for DNA Mapping and Screening," *Anal. Chem.* 67: 3482-3490 (1995).

Mann et al., "Use of Mass Spectrometric Molecular Weight Information to Identify Proteins in Sequence Databases," *Biological Mass Spectrometry* 22: 338-345 (1993).

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Qian et al., "Two-Dimensional Gel Electrophoresis Detects Prostate-Specific Antigen- $\alpha$ 1-Antichymotrypsin Complex in Serum but not in Prostatic Fluid," *Clinical Chemistry* 43(2): 352-359 (1997).

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Spengler et al., "Metastable Decay of Peptides and Proteins in Matrix-assisted Laser-desorption Mass Spectrometry," *Rapid Communications in Mass Spectrometry* 5: 198-202 (1991).

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Yates et al., "Peptide Mass Maps: A Highly Informative Approach to Protein Identification," *Analytical Biochemistry* 214: 397-408 (1993).

Yates et al., "Method to Correlate Tandem Mass Spectra of Modified Peptides to Amino Acid Sequences in the Protein Database," *Anal. Chem.* 67: 1426-1436 (1995).

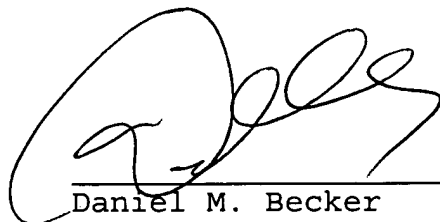
Yip et al., "Cryptic Antigenic Determinants on the Extracellular Pyruvate Dehydrogenase Complex/Mimeotope Found in Primary Biliary Cirrhosis," *The Journal of Biological Chemistry* 271: 32825-32833 (1996).

Copies of the aforementioned documents, which are listed on the accompanying Form PTO-1449 (submitted in duplicate), are enclosed herewith.

It is respectfully requested that these documents be (1) fully considered by the Patent and Trademark Office during the examination of this application; and (2) printed on any patent that may issue on this application. Applicants request that a copy of Form PTO-1449 (submitted in duplicate herewith), as considered and initialed by the Examiner, be returned with the next communication.

An early and favorable action is respectfully  
requested.

Respectfully submitted,



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Attorney for Applicants

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